

AUG 5 1963

*To the Shareholders**Keeley-Frontier Mines Limited:*

Toronto, July 29, 1963.

Your directors report that the results of operations of the mine in the first six months of production have been disappointing. From the commencement of milling January 19th, 1963 to July 15th, an operating loss of \$116,867 is shown. Of this approximately \$110,000 was incurred in the first three months.

As stated in the Progress Report enclosed herewith, when the mine was re-opened "much rehabilitation was necessary to gain access to the working places and to facilitate transportation of the ore from the various workings to the Frontier No. 3 production shaft. Mining in the Keeley area is approximately  $\frac{3}{4}$  mile from this shaft. The Beaver Lake fault area where exploration by diamond drilling is in progress is approximately one mile from the Frontier shaft."

The report further states that according to records in the company files, ore reserves as of December 31st, 1962 included indicated ore in place and broken ore underground of 91,100 tons of an assumed grade of 21 ounces silver per ton, while surface stock piles of 130,000 tons and tailings of 120,000 tons were reported to grade 6 ounces and 5 ounces per ton respectively. The report continues: "Production to date indicates that the estimated figures for both underground and the surface stockpile are high. From sampling and production figures, grade of ore from underground has averaged approximately 8 ounces silver per ton and the surface stock pile approximately 3 ounces silver per ton."

When the results of the first quarter's operations became known, the directors at a meeting on April 5th made several changes in management, including the appointment of Mr. W. A. Carter, P.Eng., as Managing Director and the election of the undersigned as a director and as President of the Company. Mr. Carter's Progress Report covering the first six months of operations has been reprinted in full and a copy is enclosed herewith. Attention is directed to the section of the report headed "Operating Data" with comparative figures for the first and second quarters of the current year, and to Mr. Carter's recommendations at the conclusion of his report.

The loss sustained in the past six months has impaired the financial position of the Company and resulted in a deficiency in working capital. A temporary loan (apart from bank credit against the value of concentrates shipped to the smelter) has been obtained to tide over the more pressing obligations, and your directors are carrying on immediate negotiations for the finances necessary to put the Company in a sound financial position. These finances will probably be obtained by way of debentures or other debt securities. As soon as arrangements for such financing can be concluded, an immediate report will be made to the shareholders. In the meantime, a copy of the unaudited Balance Sheet of the Company as at July 15th, 1963 is enclosed.

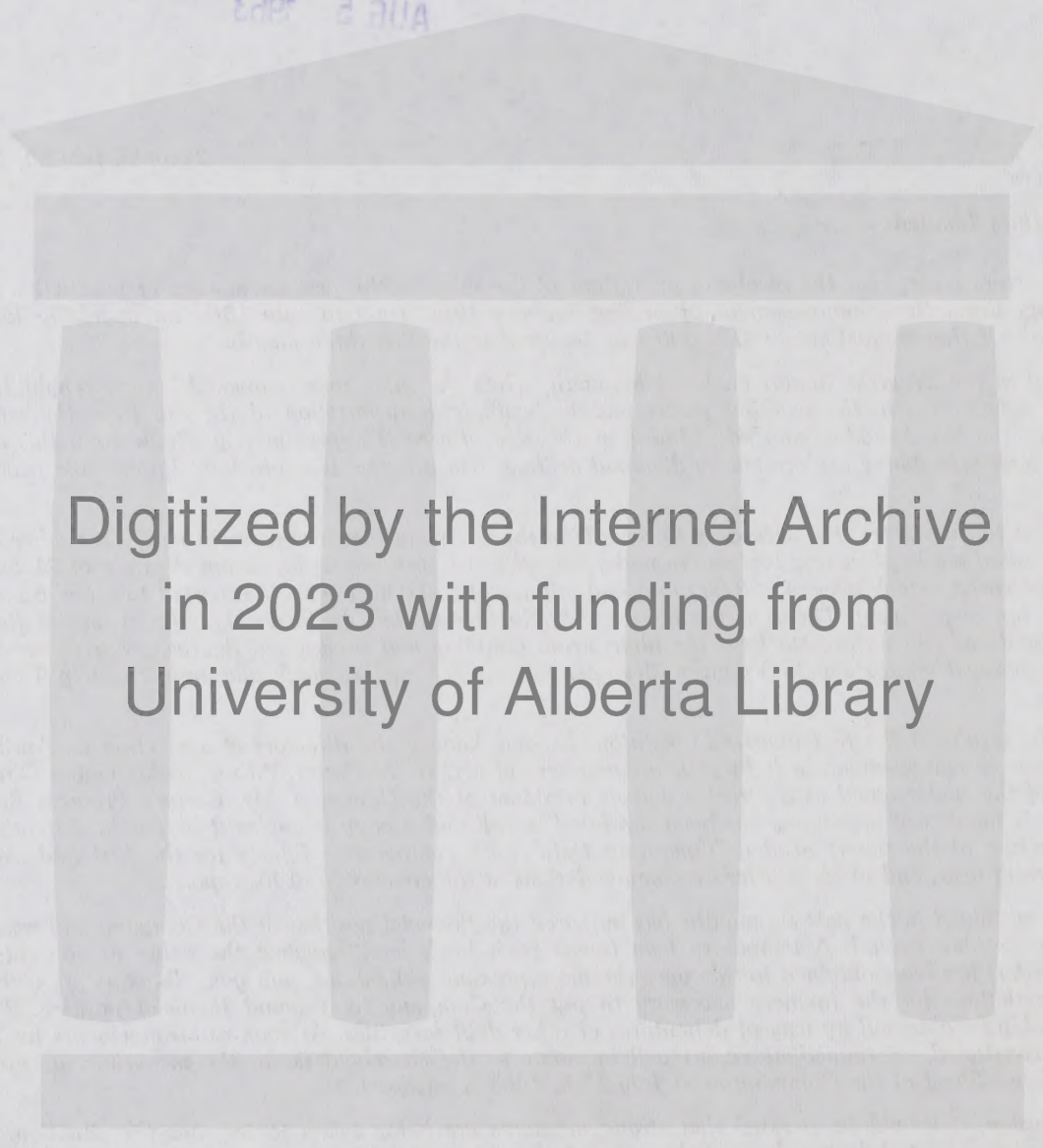
In conclusion, it should be stressed that strong measures are being taken to improve the situation. The economies of operations effected during the past three months have brought the mine close to the break-even point. The recommendations contained in Mr. Carter's Progress Report are being implemented. As Mr. Carter states: "The main objective should be to discover brand new ore bodies. Since the property has great potential in this respect, much effort should be placed in the exploration of these potential areas. If a new ore body or ore bodies are discovered, these along with short shoots developed in the old workings would make for a profitable and possibly long life mining operation."

Respectfully submitted

On behalf of the Board

J. P. ARNOTT,

President



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# KEELEY-FRONTIER MINES LIMITED

## PROGRESS REPORT

January 1st to June 30th 1963

### INTRODUCTION

Following completion of the construction of a 200 ton mill during 1962, production was started on January 19th, 1963. The following report will summarize the progress and results of operating for the six months period to June 30th, 1963.

Much rehabilitation was necessary to gain access to the working places and to facilitate transportation of the ore from the various workings to the Frontier No. 3 production shaft. Mining in the Keeley area is approximately  $\frac{3}{4}$  mile from this shaft. The Beaver Lake fault area where exploration by diamond drilling is in progress is approximately one mile from the Frontier shaft.

### MILLING

During the 6 month period, the mill treated 20,030 tons of ore, for a daily average of 126 tons. Production amounted to 163,501 ounces of silver or 8.16 ounces per ton milled. Tailings loss was .90 ounces per ton milled. Recovery was 88.5 per cent. The mill feed consisted of 1,846 tons from the surface dump and 18,184 tons from underground. Plans are underway to begin milling 100 to 150 tons of tailings daily beginning in July. It is estimated that this will increase monthly production by about 8,000 ounces.

### DEVELOPMENT & MINING

Twenty-One Thousand Nine Hundred and Seventy-Five (21,975) tons of ore were broken in stopes and development. Forty-Five (45) per cent of the mining was carried out on the Watson vein, 27 per cent on the Woods vein, and 5 per cent on the No. 1 vein, all in the Frontier mine workings. The remaining 23 per cent was carried out in the Keeley workings.

One Hundred and Eighty-Three (183) feet of drifting and 3,671 feet of raising and box-holing was completed during the period. Five Thousand and Eleven (5,011) feet of underground diamond drilling was completed.

Ore removed from underground amounted to 10,125 tons from the new ore broken and 10,004 tons from broken ore remaining in old stopes. Eleven Thousand Eight Hundred and Fifty (11,850) tons of new ore broken still remain in stopes.

### ORE RESERVES

According to records in the company files, ore reserves as of December 31st, 1962 were shown as follows:

	Tons	Assumed Grade Ounces Silver per Ton	Ounces Silver
Indicated Ore in Place .....	71,300	20.0	1,420,500
Broken Ore Underground .....	19,800	25.0	71,250
TOTAL Underground .....	91,100	21.0	1,916,000
Surface Stock Piles .....	130,000	6.0	780,000
Tailings .....	120,000	5.0	600,000
GRAND TOTAL .....	341,100	9.7	3,296,000

Production to date indicates that the estimated figures for both underground and the surface stockpile are high. From sampling and production figures, grade of ore from underground has averaged approximately 8.0 ounces silver per ton and the surface stockpile approximately 3.0 ounces silver per ton. It is understood that estimates of grade were made from new sampling, where possible, but a great deal of the estimates were made from results received during former operations. Apparently, in former operations, sizeable, spectacular high grade plums or pods were discovered at frequent intervals, and it was thought that this experience would continue. Discovery of high grade pods to date has been disappointing both as to frequency and size.

### ORE POTENTIAL

Although it is more than likely short shoots of ore will continue to be developed in pillars in the old stopping areas, the main objective should be to discover substantial new ore zones. In this respect, the company is very fortunate in having what is considered several extremely favourable potential ore possibilities.





## BEAVER LAKE FAULT AREA

In 1962, 3 diamond drill holes were put down from surface to test the Beaver Lake Fault structure in the favorable Keewatin formation above the upper diabase sill contact. This structure is located approximately 1,700 feet west of the Frontier No. 3 shaft. Several vein structures were cut in all 3 holes with indicated silver and cobalt mineralization. No. 1 hole intersected what is considered the fault vein, giving 5 feet which assayed 106.8 ounces silver per ton. A program of underground drilling got started early in May to test the structure. To date, 9 holes have been completed. Six of these have been flat holes to check the location and strike of the fault zone; the remaining 3 have been inclined down holes to check the dip of the zones at various depths between the drilling horizon, which is approximately 500 feet above the Keewatin diabase contact, and the upper diabase contact. All except one hole have intersected the several vein systems, showing strong structure and good cobalt mineralization. However, silver content was low. A new series of holes, beginning with No. 10 has now been started to intersect these zones closer to the favorable contact near the location of the important surface holes. This series of holes will be in more favorable ground and it is hoped that the silver content at this horizon will be of ore grade. The drilling is being carried out from the Keeley 8th level.

The Beaver Lake fault is also being attacked from the No. 11X-Cut on the Frontier 8th level (this is two levels below the Keeley 8th level). It is believed that this cross-cut is quite close to the Fault.

### 828 WINZE AREA — 8th KEELEY LEVEL

This area is half way between the Woods and Beaver Lake Faults and comprises the intersections of the Nos. 16, 28 and 35 veins. This appears to be potential ground right to surface and should also continue down into the Keeley Extension on the 9th, 10th, 11th and 12th Keeley levels.

### 830 WINZE AREA

This is known as the Right Extension of the Woods Vein. The Winze extends 80 feet below the 8th level. De-watering of this Winze is now in progress. This structure shows some ore on the Keeley 8th level and on the Winze level below. Further work should develop more ore on these levels and the levels above are also potential.

### NO. 4 AND NO. 9 VEINS — FRONTIER

No. 4 vein between No. 1 north and No. 1 south Faults on the 1st level should receive more attention. It lies east and parallels the Watson vein.

Also, underground drilling to the north west of the main shaft gave an interesting intersection carrying silver where No. 1 Fault south crosses No. 9 vein. This checks with a surface occurrence and lies parallel and to the west of the Wood's vein.

### LOWER CONTACT — NO. 8 WINZE

No. 8 Winze was sunk from the 8th Frontier level to 1,420 feet through the diabase sill. A drive was extended south through the old Keeley property to explore the lower contact of the diabase sill. Some high grade ore was produced from this lower contact by former operators and there is little doubt that this will provide a very favorable location for finding new high grade silver deposits.

### OPERATING DATA

Soon after production started, it was obvious that the grade of ore was going to be lower than contemplated. Steps were taken in March to lower the operating costs to compensate for the lower grade of ore.

The following is a comparison of operating costs for the first and second quarters:

	Tons Milled	Operating Costs per Ton Milled	Rehabilitation per Ton Milled	Totals per Ton Milled
		\$	\$	\$
1st 3 Months	8,412	114,857.86	60,641.03	175,498.89
2nd 3 Months	11,619	119,161.72	32,371.02	151,532.74
6 Months	20,031	234,019.58	93,012.05	327,031.63

It will be noted that total operating costs dropped from \$175,498.89 to \$151,532.74 in the second quarter which is a drop of \$7.93 per ton milled. At the same time, tons milled increased by 3,207 tons. The total saving came under the heading of rehabilitation. It is felt that this figure can be dropped further in future months.

### SUMMARY & CONCLUSIONS

The mill tonnage has averaged only 126 tons daily, although the mill was designed to handle 200 tons daily. The following reasons are given for the low tonnage:

- Transportation of ore from distant working places has been difficult due to poor track, narrow drifts, etc.
- Drawing and mucking ore from old stopes, especially in the large oxidized section has been difficult due to large slabs and hang-ups, etc. which required much blasting and block-holing.
- The silver content of rock broken in some working places has proven to be too low to even be classed as mill rock and has therefore been left in the stopes.





- d) The silver content of the surface stockpile, which could have been used to bring the tonnage up, was also disappointing and thus, not used to date. There is a possibility that other sections of the pile could give better grade. It is obvious now that estimated ore reserve figures were too high both as to tonnage and grade, and that the construction of a 200 ton mill was possibly premature. Unexplored potential areas within the company's holdings will almost surely develop new ore zones, but it would appear now that this exploration should have been carried out before going into production. In a report by Leonard G. Smith, P. Eng., dated July 26th, 1962 he says "While still more ore will be found with further work on the upper levels, the main objective and the greatest potential for new ore, is in the hitherto unexplored localities acquired by the company, along the productive zone west of the old Keeley workings and on the as yet unexplored Keeley Extension," and then "It is pointed out that an estimate of ore to be developed on the upper levels remains approximate at this time." Operating costs have been brought down to a level where, even with the low grade of ore developed to date, a break-even point has almost been reached. It is contemplated that those costs can be reduced further and that the mine can be put on a profitable basis.

## RECOMMENDATIONS

Since the mine has been brought to the production stage, every effort should be made to reduce operating costs still further so that the mine can be put on a profitable basis. This can be accomplished through increased efficiency resulting in more tons per man. This would also result in higher mill tonnage and thus more ounces of silver. However, if possible, every attempt should be made to increase the grade of ore treated to at least 10 ounces silver per ton. This might be accomplished through more selective mining and more efficient mining (less overbreak, etc.).

Increased production might also be accomplished by the addition of 100 to 150 tons of old tailings to the mill circuit. This is being tried now. Although rock from the surface stockpile to date has proved to be very low in silver content, further testing of this material could prove important.

The main objective should be to discover brand new ore bodies. Since the property has great potential in this respect, much effort should be placed in the exploration of these potential areas. If a new ore body or ore bodies are discovered, these along with short shoots developed in the old workings would make for a profitable and possibly long life mining operation.

If slightly higher grade together with lower operating costs are not attained in the immediate future, the only course of action left would be to cease mining and milling operations and concentrate entirely on a carefully planned exploration program. If this program proved successful in the discovery of new economical ore zones, mining and milling operations could be resumed.

Respectfully submitted,  
W. A. CARTER, P.Eng.  
Managing Director

## C E R T I F I C A T E

I, W. A. Carter, of the City of Toronto, County of York, Province of Ontario, hereby certify:

- I That I am a Consulting Mining Engineer, residing at 209 Strathallan Wood, Toronto 12, Ontario.
- II That I am a graduate of the University of Toronto, 1934, with the Degree of Bachelor of Applied Science.
- III That I am a registered Professional Engineer in the Province of Ontario, and have practiced my profession as Mining Engineer for 29 years.
- IV That my experience has included senior operating and administrative positions in both production and exploration more particularly as follows:  
Chief Engineer, then Mine Superintendent, Little Long Lac Gold Mines Ltd., to 1942.  
Construction Engineer Officer, R.C.A.F., to 1945.  
Assistant Manager, Little Long Lac Gold Mines Ltd. to 1949.  
Mine Manager, Little Long Lac Gold Mines Ltd. to 1954.  
Manager, Area Mines Limited to 1956.  
General Manager, North American Rare Metals Ltd. to 1961.  
Consulting Mining Engineer 1961 to present time, including Directorships and management positions with various Companies represented.
- V That I have no interest directly or indirectly in the properties or securities of Keeley-Frontier Mines Limited.
- VI That the accompanying report is based upon information contained in the files of Keeley-Frontier Mines Limited, and on personal knowledge of the operation gained in my capacity as Managing Director and Consulting Engineer for the Company since April 5th, 1963.

W. A. CARTER, B.A.Sc., P.Eng.

Dated at Toronto,  
in the County of York,  
this 22nd day of July, 1963.







# KEELEY-FRONTIER MINES LIMITED

## INTERIM BALANCE SHEET

As at July 15, 1963

### ASSETS

#### CURRENT ASSETS

Cash .....	\$	8.15	
Settlements Receivable .....		125,985.36	
Concentrates on hand in transit — Net realizeable value .....		45,292.35	
Utility Deposits .....		5,961.25	
Accounts Receivable .....		294.58	\$ 177,541.69

#### FIXED ASSETS

14 Mining Claims in Township of South Lorraine Temiskaming, Ontario acquired for cash \$60,000 and 505,000 shares of Company's capital stock valued at \$50,500 .....		110,500.00	
Building machinery and equipment at cost .....		486,557.61	\$ 597,057.61

#### DEFERRED EXPENDITURES AND OTHER ASSETS

Prepaid Expense .....		7,617.29	
Development Preproduction Expenditures .....		488,953.26	
Organization .....		3,071.15	
Commission on issue of the Company's shares .....		16,500.00	
Mine Stores and Supplies at cost .....		13,414.26	\$ 529,555.96
			<u>\$ 1,304,155.26</u>

### LIABILITIES

#### CURRENT LIABILITIES

Bank Overdraft .....	\$	1,067.65	
Loans (secured by assignment of Shipments Receivable \$124,734.29) .....		99,000.00	
Wages and employees deductions payable .....		18,103.07	
Accounts Payable .....		110,504.63	
Deferred Accounts .....			228,675.35
Loans and Notes payable 5%% .....			42,500.00

#### SHAREHOLDERS EQUITY

Capital Stock:			
Authorized 5,000,000 shares — No Par Value			
Issued:			
3,932,360 shares at August 31, 1962 .....		824,847.50	
700,000 shares since August 31, 1962 For Cash .....		325,000.00	
		<u>\$ 1,149,847.50</u>	
Less Loss on Operations January 19th to July 15th, 1963 .....		116,867.59	1,032,979.91
			<u>\$ 1,304,155.26</u>

Approved on behalf of the Board:

JAMES P. ARNOTT,  
Director

MURDOCK, C. MOSHER  
Director





# KEELEY-FRONTIER MINES LIMITED

## INTERIM STATEMENT OF OPERATIONS

For the Period January 19 to July 15, 1963

### REVENUE FROM PRODUCTION of Concentrates

Flotation and Metallics .....	\$254,399.26
Less Smelter and other Marketing Costs .....	10,303.50
	<u>\$244,095.76</u>

### OPERATING EXPENSES

Mine Development .....	\$182,834.41
Mining .....	187,024.53
Milling .....	65,365.98
Mine General & Office Expenses .....	56,356.96
Head Office Expenses .....	25,884.52
	<u>\$517,466.40</u>
Less Amount Transferred to Deferred Development and Preproduction Expenses prior to January 19, 1963	156,503.05
	<u>\$360,963.35</u>
Loss on Operations to July 15, 1963 .....	<u>\$116,867.59</u>

### SOURCE AND APPLICATION OF FUNDS

Cash, Securities, Interest Receivable July 1, 1962 .....	\$104,631.45
By Sale of the Company's Capital Stock	
400,000 shares @ 30¢, 200,000 @ 35¢	
200,000 shares @ 40¢, 200,000 @ 45¢	
200,000 shares @ 60¢, (1,200,000 shares) .....	480,000.00
By Sale of Concentrates 1963 .....	67,348.99
By Cash Loans and Overdraft .....	142,744.90
Interest Earned and Received .....	1,834.87
Total Accountable Cash .....	<u>\$796,560.21</u>

### APPLICATION OF FUNDS

Mine Buildings, Machinery, Equipment, Furniture .....	\$296,528.75
Deferred Development, Exploration Expenditures .....	209,415.47
Mining & Milling Operations .....	270,937.75
Cash and Receivables July 15, 1963 .....	\$ 302.73
General Mine Stores July 15, 1963 .....	13,414.26
Deposits with Hydro and Quebec Securities Commission .....	5,961.25
	<u>19,678.24</u>
TOTAL CASH DEPOSITS and DISBURSEMENTS .....	<u>\$796,560.21</u>

